



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/628,247

07/29/2003

Satoru Kawaii

402726

5448

23548

7590

03/18/2005

LEYDIG VOIT & MAYER, LTD  
700 THIRTEENTH ST. NW  
SUITE 300  
WASHINGTON, DC 20005-3960

EXAMINER

PAK, SUNG H

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 03/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

# Supplemental Notice of Allowability

Application No.

10/628,247

Applicant(s)

KAWAAI ET AL.

Examiner

Sung H. Pak

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to preliminary amendment filed 7/29/2003.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ The drawings filed on 29 July 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

### **DETAILED ACTION**

This supplemental statement of reasons for allowance is provided to address a newly found prior art, Schmidt et al (US 6,578,999 B2).

#### ***Allowable Subject Matter***

Claims 1-8 are allowed.

The following is an examiner's statement of reasons for allowance:

A rod integrator is well known and common in the art. Also, rod integrators comprising a quadrangular prismatic light guiding member or a quadrangular tubular member are known in the art.

Strobl et al. (US 2004/0126077 A1), Schmidt et al. (US 2002/0114573 A1) and Wagner (US 2002/0118946 A1) disclose quadrangular tubular integrator devices having a light guiding portion defined by four reflective surfaces. Okamori et al. (US 6,139,156) and Levis et al (US 5,829,858) disclose prismatic integrator member having tapered portion coupled with non-tapered portions. Magarill (US 5,625,738) and Chiu et al. (US 5,777,789) disclose quadrangular integrator devices which may have a prismatic member OR a tubular member for providing a light guiding element.

Perhaps the most relevant prior art (and the one that has the closest structural similarities with the claimed invention) is Schmidt et al (US 6,578,999 B2). Schmidt discloses a solid quadrangle waveguide coupled to a quadrangle tube waveguide. Fig. 6 illustrates the coupling structure. However, the tube waveguide is not "arranged in a pinwheel shape" as claimed in the instant application (see Fig. 7 of Schmidt). The "pinwheel shape" is explicitly defined in the

Art Unit: 2874

applicant's specification on page 5 lines 20-24. The pinwheel shape provides a distinct advantage over the prior art because it provides efficient coupling between the solid waveguide and the tube waveguide without undesirable gaps, even if the "sizes of the individual light-guiding members are different." (see applicant's specification page 6 lines 4-10). Consequently, Schmidt requires optical cement at the coupling point between the solid waveguide and the tube waveguide (column 6 lines 56-57), or requires a shrink tubing over the coupling junction to ensure contact between the tube waveguide and the solid waveguide (column 6 lines 57-63).

Therefore, none of the prior art fairly teaches or suggests such a rod integrator device having, inter alia, a quadrangular prismatic light guiding member and a quadrangular tubular member, wherein one end of the tubular member "*surrounds*" and "*contacts*" one end of the prismatic member in a "*pinwheel arrangement*" as claimed in the instant application. Also, none of the prior art fairly teaches or suggests a method of manufacturing such a rod integrator device.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Art Unit: 2874

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (571) 272-2353. The examiner can normally be reached on Monday- Friday, 9AM-5PM.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sung H. Pak  
Examiner  
Art Unit 2874

sp